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Amendments to the Claims:

1. (currently amended) A method of manufacturing a membrane with a double layer membrane wall whose layers consist of different polyacrylnitrile copolymers so that the layer forming one surface of the double layer membrane is blood-compatible whereas the layer forming the other surface of the double layer membrane is tissue-compatible, said method comprising the steps of:

preparing, separately, a first polymer solution which contains a blood-compatible polymer comprising at least one of polyacrylnitrile copolymer P(AN-co-NVP) with a fraction of NVP between 18.0 and 20.9 mol-% ~~ANNVP 20~~, heparinized ~~ANAPMA and~~ polyacrynitrile copolymer P(AN-co-APMA) with a fraction of 3.8 mol-% APMA, a mixture thereof and a mixture of at least one of polyacrylnitrile copolymer P(AN-co-NVP) with a fraction of NVP between 18.0 and 20.9 mol-% and heparinized polyacrylnitrile copolymer P(AN-co-APMA) with a fraction of 3.8 mol-% APMA with polyacrylnitrile,

and a second polymer solution which contains a tissue-compatible polymer comprising at least one of polyacrylnitrile copolymer ~~ANNVP 5~~ P(AN-co-NVP) with a fraction of NVP between 4.8 and 6.1 mol%, and a mixture thereof with polyacrylnitrile by dissolving the respective polymer in a solvent such that both polymer solutions remain in the form of polymer mixture solutions in a homogeneous state,

bringing the two polymer solutions into contact with each other in the nozzle of an extruder so as to form a layered polymer solution compound arrangement,

and extruding the two polymer solution compound arrangement from the nozzle of the extruder into a coagulation bath where it is subject to a phase inversion thereby forming a double layer membrane with a blood-compatible material surface at one side thereof and a tissue-compatible surface at the other side thereof which is at least partially freed from all non-membrane forming components.

2. (original) A method of manufacturing a membrane according to claim 1, wherein, before the extrusion into the coagulation bath, the membrane is passed through an air space.

3. (original) A method of manufacturing a membrane according to claim 1, in the form of a double layer hollow membrane, wherein as extruder a spin extrusion nozzle is used.

4. (original) A method of manufacturing a membrane according to claim 3, wherein as an extruder nozzle a multi-channel hollow core nozzle is used.

5. (original) A method of manufacturing a membrane according to claim 3, wherein the polymer solution compound arrangement at the exit of the extrusion nozzle is stabilized in its form by the concurrent extrusion of a lumen filler forming the hollow core.

6. (original) A method of manufacturing a membrane according to claim 3, wherein the polymer material forming the inner surface of the hollow membrane is blood-compatible and the polymer forming the outer surface is tissue-compatible.

7. (original) A method of manufacturing a membrane according to claim 1, wherein a first and a second polymer solution are used which both include the same solvent.

8. (original) A method of manufacturing a membrane according to claim 1, wherein a first and a second polymer solution are used which include an additional polymer which is the same in both polymer solutions.

9. (previously presented) A method of manufacturing a membrane according to claim 8, wherein the mass content of blood-compatible and, respectively, tissue-compatible polymers and the additional polymer in the total polymer content of the respective polymer solution is 10 to 90%.

10. (original) A method of manufacturing a membrane according to claim 1, wherein the concentration of the polymer in the first and second polymer solutions each is 10 to 30%.

11. (previously presented) A method according to claim 8, wherein the mass content of blood-compatible and, respectively, tissue compatible polymers and the additional polymers in the total polymer content of the respective polymer solution is 40 to 60%.